Presentation at State Advisory Board Meeting
November 6, 2002
Outline

- **Ozone**
  - **1 Hour**
  - **8 Hour**
  - **Designation Time Lines**
- **Bump Up To Severe in DC Area**
- **PM 2.5**
  - **Schedule for SIPs**
- **NOx SIP Call**
- **SAMI**
- **Vistas**
- **Title V**

Number of Days One Hour Standard Was Exceeded in 2002

- **Richmond Area**

Charles City County	**3**
Chesterfield County	**1**
Hanover County	**1**
Henrico County	**1**

- **Hampton Roads**

Hampton	**2**
TCC Suffolk	**1**

- **Northern Virginia**

Alexandria	**3**
Arlington County	**4**
Fairfax	
Annandale	**2**
Chantilly	**1**
Franconia	**4**
McLean	**1**
Mount Vernon	**3**
Loudoun County	**1**
Prince William	**1**
Stafford County	**1**
State Total	**30**

One Hour Ozone Exceedances
Number of Days Values Exceeded
124 ppb

Maximum One Hour Values

Charles City County	**164 on 7/17/02**
Chesterfield County	**140 on 7/02/02**
Hanover County	**133 on 8/12/02**
Henrico County	**140 on 8/13/02**
Hampton	**134 on 7/17/02**

Maximum One Hour Values

- **Alexandria** — **145 on 7/02/02**
- **Arlington County** — **151 on 7/02/02**
- **Fairfax County**
  - **Annandale** — **139 on 7/02/02**
  - **Chantilly** — **149 on 8/02/02**
  - **Franconia** — **148 on 8/13/02**
  - **Mt. Vernon** — **158 on 7/02/02**
- **Loudoun County** — **132 on 9/10/02**
- **Prince William County** — **129 on 9/10/02**
- **Stafford County** — **149 on 8/13/02**

Consequences -- Bump Up to Severe

- **Revise SIP - Use Mobile 6.**
- **Offset ratio now 1.3 to 1.**
- **Major source 25 tons/year.**
- **May have conformity problem.**
- **Section 185**
  - **Penalty against sources for failure to attain.**
  - **$5,000/ton adjusted for CPI for each ton in excess of 80% of baseline -- now about $7,300/ton.**

- **Baseline is lower of actual emissions or permitted amount for attainment year (2005).**
- **Example -- If allowed emissions is 100 tons, penalty would be (100 - 80) (7,300) or $146,000.**
- **25 ton allowed source would pay $36,500.**
- **Covers both NOx and VOC as we understand it.**

Virginia Department of Environmental Quality
2000-2002 Fourth Highest Daily Maximum Ozone 8-Hour Averages
Units, ppb

County/City	2000	2001	2002	3-Year Average
Wythe Co.	82	76	85	81
Roanoke Co.	81	89	91	87
Rockbridge Co.	77	82	78	79
Page Co.	76	86	78	80
Frederick Co.	79	86	91	85
Fauquier Co.	77	82	84	81
Caroline Co.	78	86	85	83
Madison Co. (Big Meadows)	80	90	85	85

County/City	2000	2001	2002	3-Year Average
Richmond Area:				
Chesterfield Co.	80	86	93	86
Henrico Co.	83	91	98	90
Hanover Co. Installed 2001		91	106	NA
Charles City Co.	76	89	105	90
Tidewater Area :				
Hampton	81	85	102	89
Suffolk - TCC	81	85	98	88
Suffolk - Holland	84	75	92	83

City/County	2000	2001	2002	3-Year Average
Northern VA Area:				
Loudoun Co.	77	93	102	90
Stafford Co.	79	86	94	86
Prince William Co.	79	89	87	85
Arlington Co.	80	98	112	96
Alexandria	77	91	103	90
Fairfax Co. Lee Park	70	96	108	91
Fairfax Co. McLean	82	90	99	90
Fairfax Co. Mt. Vernon	92	95	106	97
Fairfax Co. Chantilly	79	93	92	88
Fairfax Co. Annandale	Installed April 2002		108	NA

Designation Timeline

Recent & Future Milestones

DEQ
Virginia Department of Environmental Quality

Classification of Projected 8-Hour Nonattainment Areas

Location	2000/01/02 Average PPB	Classification	*Attainment Year After Designation
Roanoke	87	Marginal	3
Frederick Co.	85	Marginal	3
Big Meadows	85	Marginal	3
Chesterfield	86	Marginal	3
Henrico	90	Marginal	3
Charles City	90	Marginal	3
Hanover	98 (2 years)	Moderate	6
Hampton	89	Marginal	3
Suffolk (TCC)	88	Marginal	3

Location	2000/01/02 Average PPB	Classification	*Attainment Year After Designation
Loudoun	90	Marginal	3
Stafford	86	Marginal	3
Prince William	85	Marginal	3
Arlington	96	Moderate	6
Fairfax (Mt. Vernon)	97	Moderate	6

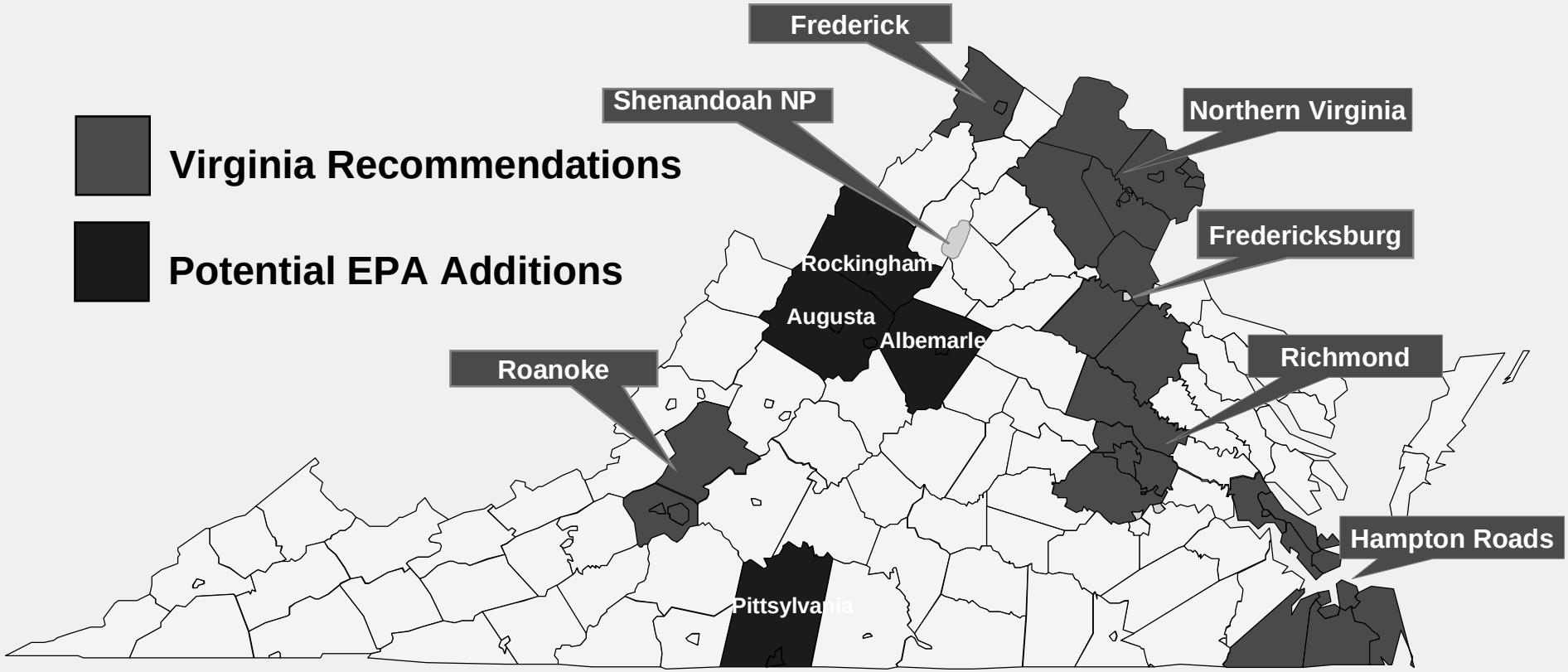
***Marginal Range** 81 through 91

Moderate Range 92 through 106

Serious 107 through 119

Potential Nonattainment Areas

DEQ Recommendations & EPA Additions



Recommendations made in 2000 based on 1997 to 1999 monitoring data

PM 2.5 Data
Annual Average

Location	1999	2000	2001	3-Year Average
Bristol	16.3	16.4	15.2	16.0
Luray	--	13.3	13.3	13.3
Roanoke	14.9	15.9	14.8	15 .2
Salem	13.8	15.5	15.1	14.8
Lynchburg	13.7	--	14.4	14.0

PM 2.5 Data
Annual Average

Location	1999	2000	2001	3-Year Average
Chesterfield	13.1	15.1	13.8	14.0
Henrico	14.2	14.6	13.5	14.1
PRO	13.4	14.3	13.0	13.6
Charles City	14.0	13.7	13.6	13.8
Richmond	14.8	15.1	14.7	14.9

PM 2.5 Data
Annual Average

Location	1999	2000	2001	3-Year Average
Chesapeake	13.1	13.6	13.5	13.4
Hampton	13.1	13.3	13.6	13.3
Newport News	12.6	13.0	12.0	12.5
Norfolk	13.6	13.6	13.6	13.6
Virginia Beach	13.7	13.0	12.7	13.1

PM 2.5 Data
Annual Average

Location	1999	2000	2001	3-Year Average
Loudoun	12.8	13.5	14.1	13.5
Fairfax (Lee)	13.5	14.1	14.3	14.0
Arlington	13.8	14.6	14.7	14.4
Fairfax (McLean)	14.3	14.8	14.5	14.5

PM 2.5 Designations/SIPs

- **Proposed designations -- as early as July, 2003. No later than July, 2004.**
- **Final EPA designations July-December, 2004, or July, 2005.**
- **EPA expects to propose implementation rules in March, 2003.**
- **EPA is hoping to harmonize PM 2.5 & Regional Haze SIPs.**

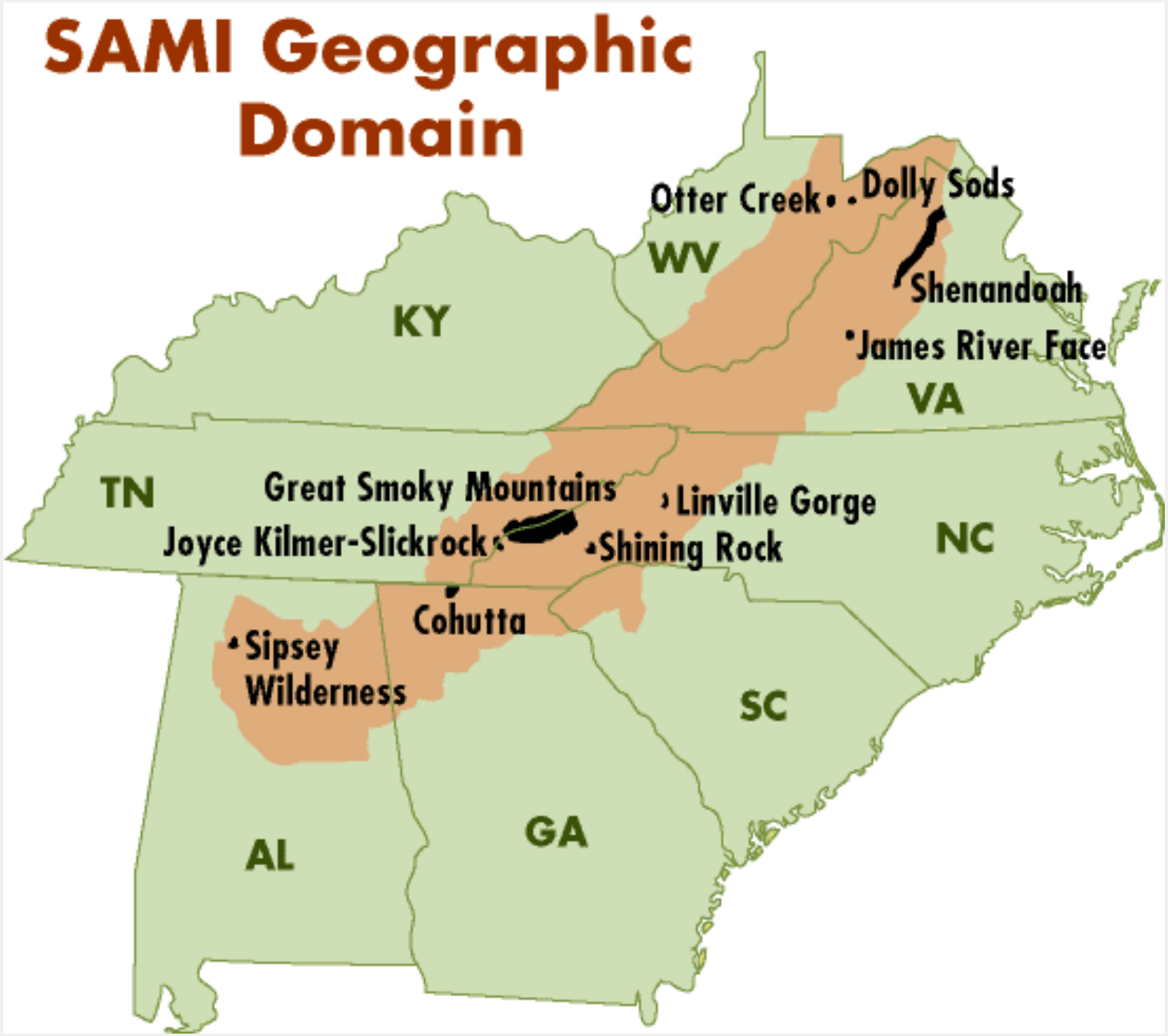
NOx SIP Call

- **Sanction clock stopped.**
- **Flow control date change to 2005.**
- **Permit applications due 11/1/02.**


)·P·M·I

SAMI MISSION:

Through a cooperative effort, identify and recommend reasonable measures to remedy existing and to prevent future adverse effects from human induced air pollution on the air-quality related values of the Southern Appalachian Mountains, primarily those of Class I areas, weighing the environmental and socioeconomic implications of any recommendations.

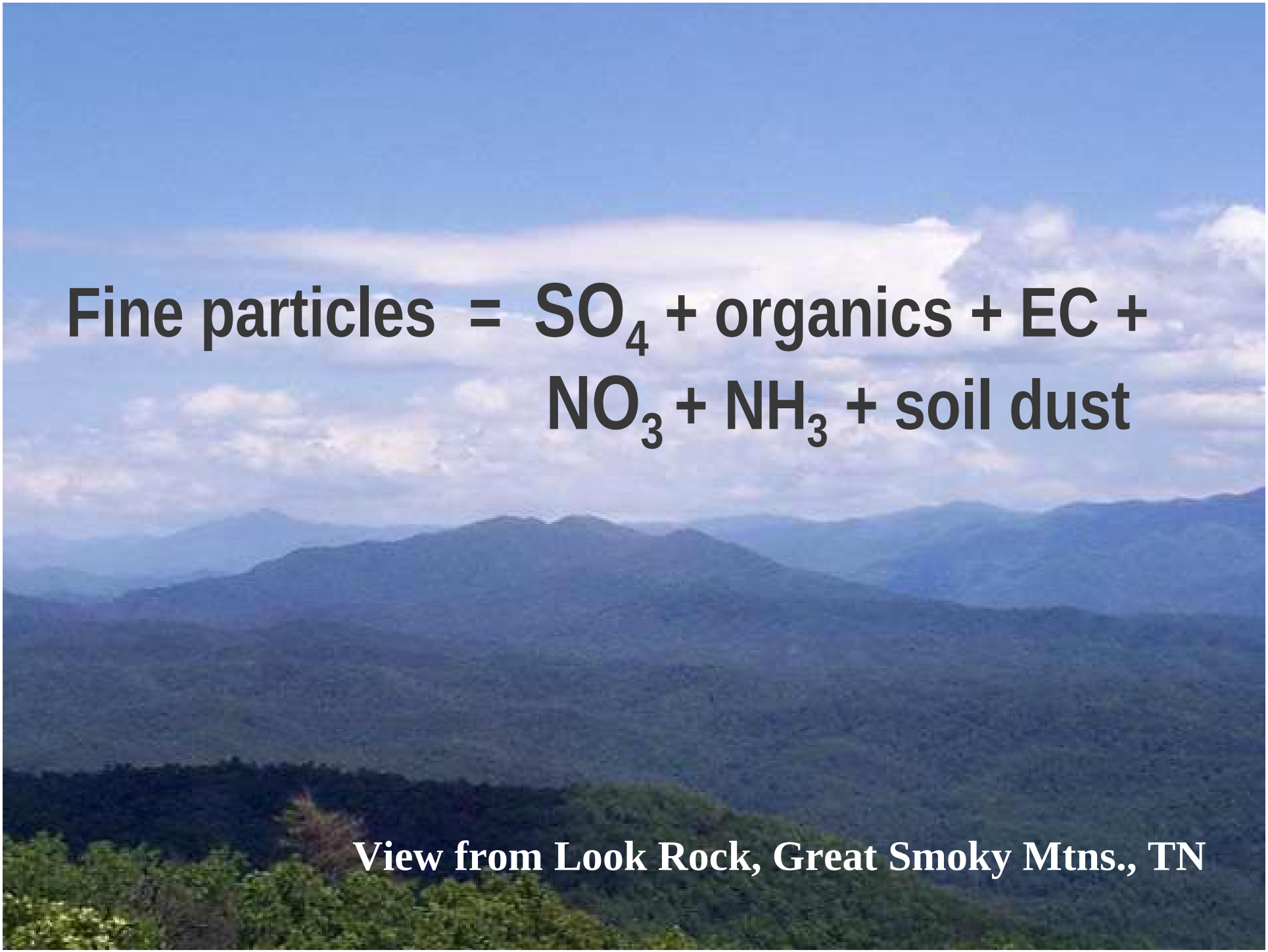

SAMI Geographic Domain
Otter Creek
Dolly Sods
WV
Shenandoah
KY
James River Face
VA
TN
Great Smoky Mountains
Linville Gorge
Joyce Kilmer-Slickrock
Shining Rock
NC
Cohutta
Sipsey Wilderness
SC
AL
GA

SAMI Key Findings: SO_2 Emissions

Electric utilities are the largest sources of SO_2 emissions

SAMI Key Findings: NOx Emissions

Electric utilities & highway vehicles are the largest sources of NO_x


Fine particles = SO_4 + organics + EC +
NO_3 + NH_3 + soil dust
View from Look Rock, Great Smoky Mtns., TN

SAMI Key Findings: Visibility

- On annual average, SO_4 (Sulfate) is largest contributor to fine particles that impair visibility
- Most of changes in visibility in SAMI strategies due to changes in SO_2 (Sulfur Dioxide) emissions

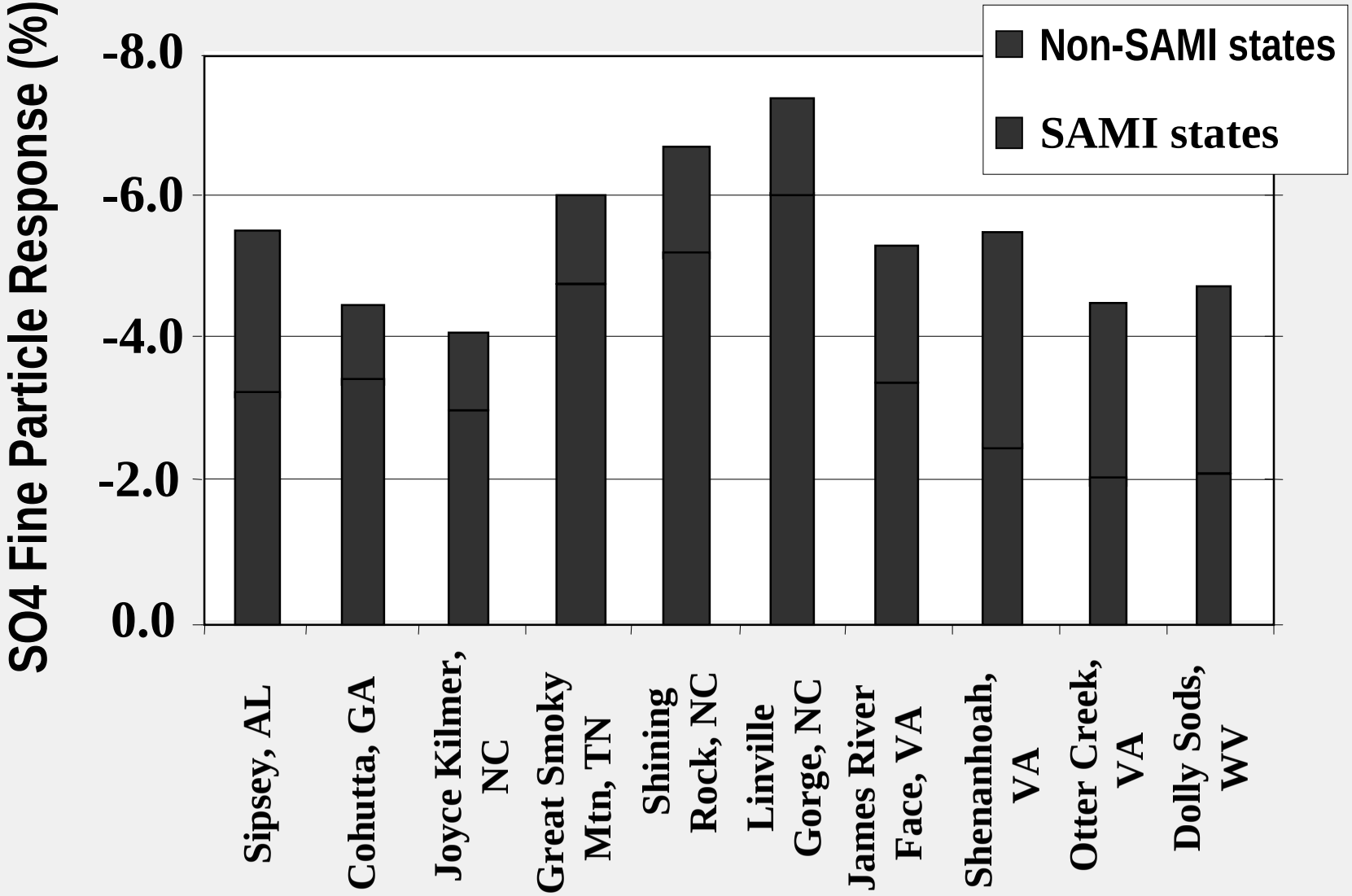
CONCLUSIONS

- Each SAMI state would receive the most benefit from reductions of emissions from within their own state boundaries.

CONCLUSIONS, cont'd

- However, the air quality related problems being encountered by SAMI's Class I areas would **NOT** be resolved by only controlling emissions within the SAMI states

Annual SO4 Fine Particles Response to 10% Reduction in SO2 Emissions from 2010 A2 strategy



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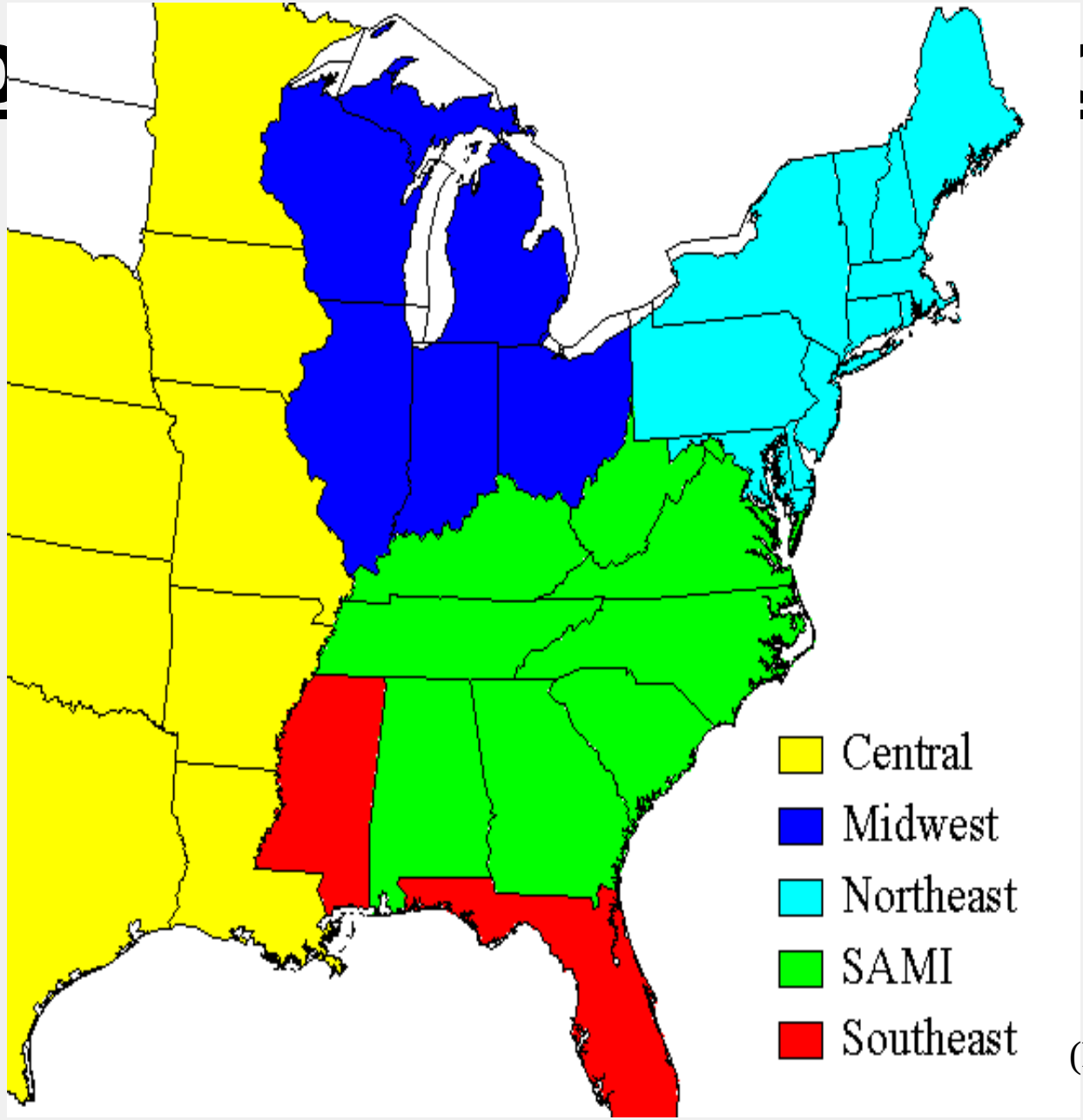


(FL, MS)

CONCLUSIONS, cont'd

- Significant sulfur dioxide (SO_2) reductions are needed to improve visibility in the SAMI region and acid deposition in SAMI Class I areas

CONCLUSIONS, cont'd

- Within the SAMI region, Class I areas and other parts of the Southern Appalachians are very fragile and would benefit from nitrogen oxides control

CONCLUSIONS, cont'd

- Controlling ammonia is more important than originally envisioned,
- States need to
  - improve their understanding of the sources of ammonia,
  - develop better inventories and
  - seek effective ammonia control approaches

SAMI BEGAN WITHOUT:

- NOx SIP
- 8 hour ozone or fine particulate standards, regional haze rule
- Tier II, heavy duty diesel, national low sulfur gasoline
- Multi-pollutant strategy proposals

RECOMMENDATIONS

- The SAMI states support & will promote strong national multi-pollutant legislation for electric utility plants to assure significant sulfur dioxide and nitrogen oxides reductions both in and outside the SAMI region.

RECOMMENDATIONS

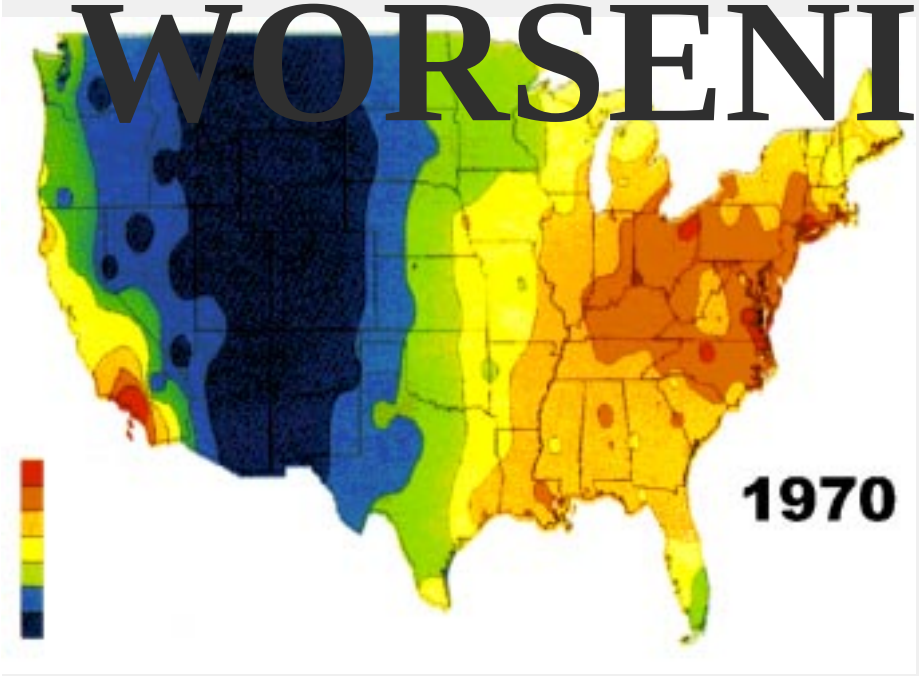
- Each SAMI State should seek ways to reduce ammonia emissions from animal feeding operations
  - Work with VISTAS to identify the sources of ammonia, develop better inventories and to seek more effective control approaches.

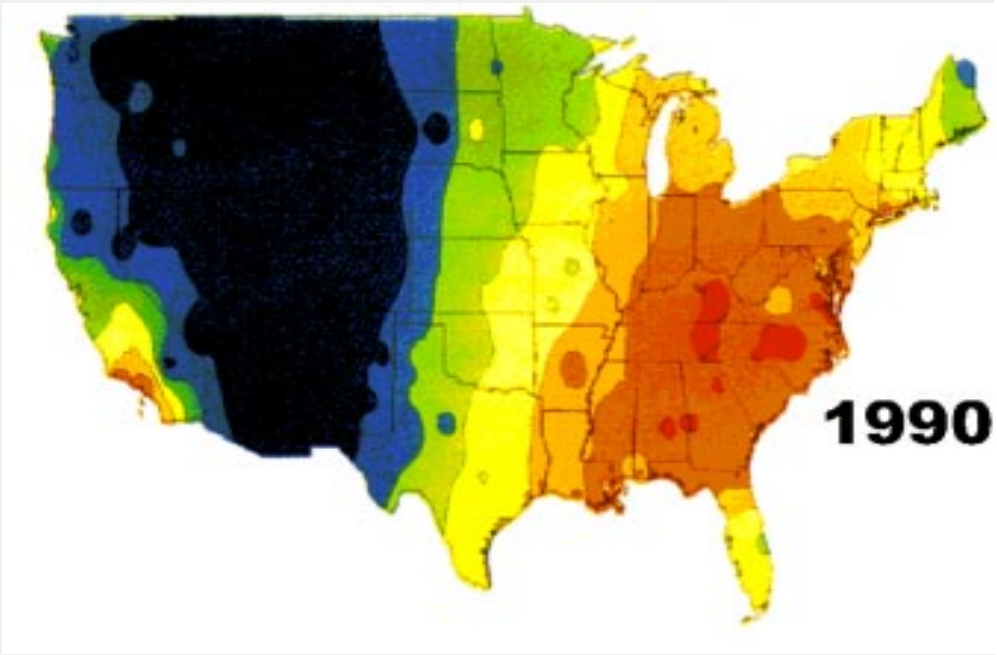
RECOMMENDATIONS

- Each SAMI state should encourage energy efficiency, conservation, and use of renewable energy to reduce the emissions from stationary and mobile sources.


VISIBILITY IMPROVEMENT
VISTAS
STATE and TRIBAL ASSOCIATION OF THE SOUTHEAST

VISIBILITY WORSENING

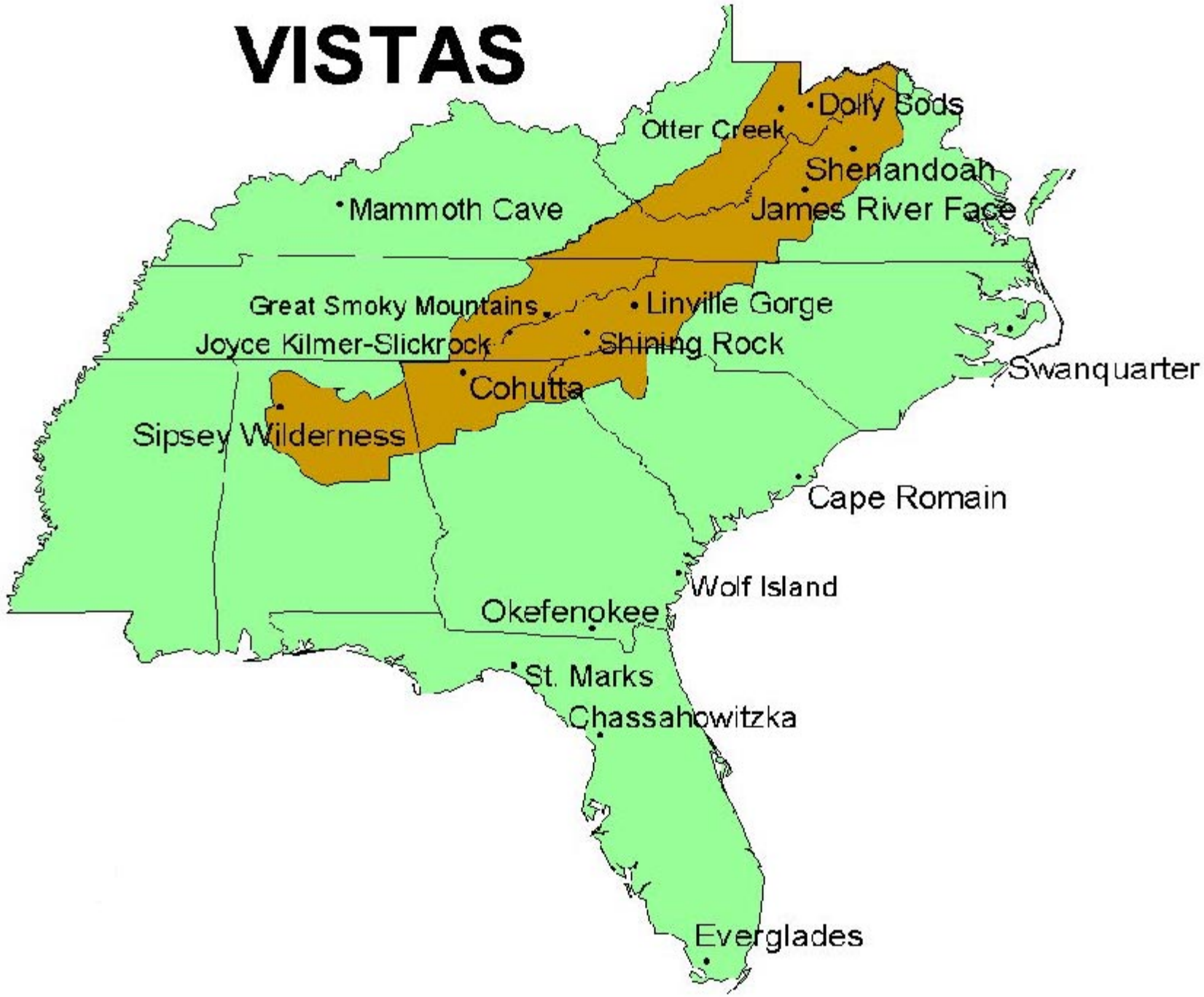




VISTAS

- **Collaborative effort to manage regional haze, visibility and other air quality issues in the Southeast.**

- **No independent regulatory authority and no authority to direct or establish State or Tribal law or policy.**


VISTAS
Dolly Sods
Otter Creek
Shenandoah
James River Face
Mammoth Cave
Great Smoky Mountains
Linville Gorge
Joyce Kilmer-Slickrock
Shining Rock
Swanquarter
Cohutta
Sipsey Wilderness
Cape Romain
Wolf Island
Okefenokee
St. Marks
Chassahowitzka
Everglades

PARTICIPATING STATES

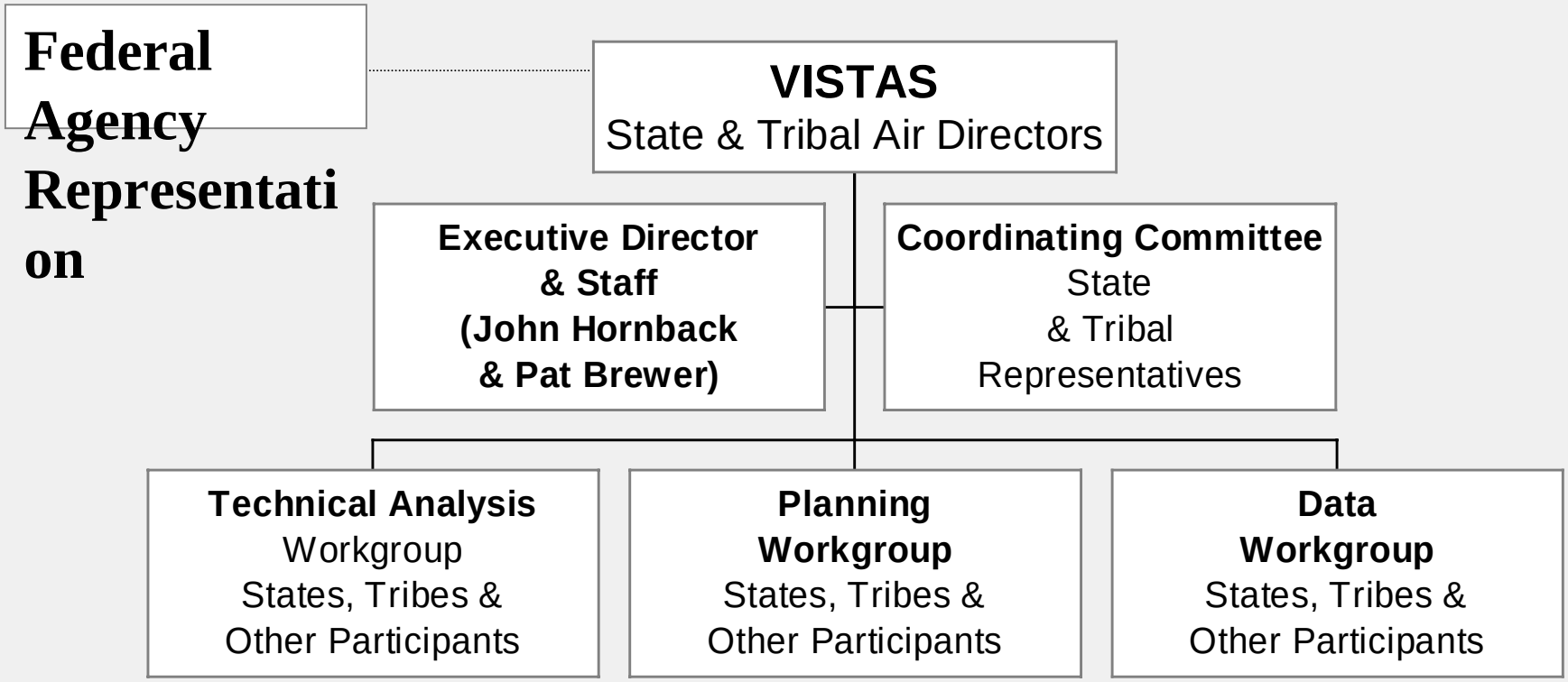
- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee
- Virginia
- West Virginia

Local Air Agencies represented by Knox County, Tennessee

TRIBES IN VISTAS REGION

- Eastern Band of Cherokee Indians
- Catawba Indian Nation
- Miccosukee Tribe of Indians of Florida
- Mississippi Band of Choctaw Indians
- Seminole Indian Tribe of Florida
- Poarch Band of Creek Indians

VISTAS Organization



VISTAS Workgroups

- Planning Workgroup
  - General planning for all VISTAS work
  - **Co-chairs - Brock Nicholson (NC)**
    & Renee Shealy (SC)
- Data Workgroup
  - Air quality and meteorological monitoring data
  - **Co-chairs – Larry Garrison (KY)**
    & Scott Reynolds (SC)
- Technical Analysis and Modeling Workgroup
  - Emissions Inventory and Modeling
  - **Chair - Sheila Holman (NC)**

Federal Representatives

- Serve as advisory panel
- Non-voting Members
- Federal Land Managers
    - Department of Interior (2)
    - Department of Agriculture (1)
- U.S. Environmental Protection Agency

Other Participants

- **Industry**
- **Environmental Groups**
- **Academia**
- **Other interested parties**

VISTAS TIME LINE

- By 2005: Complete modeling and analysis of regional situation and strategies
- Late 2005: States, locals, and tribes begin their plan development
- By 2008: Agencies must submit their implementation plans

Goal = Natural conditions by 2064

VISTAS OBLIGATIONS

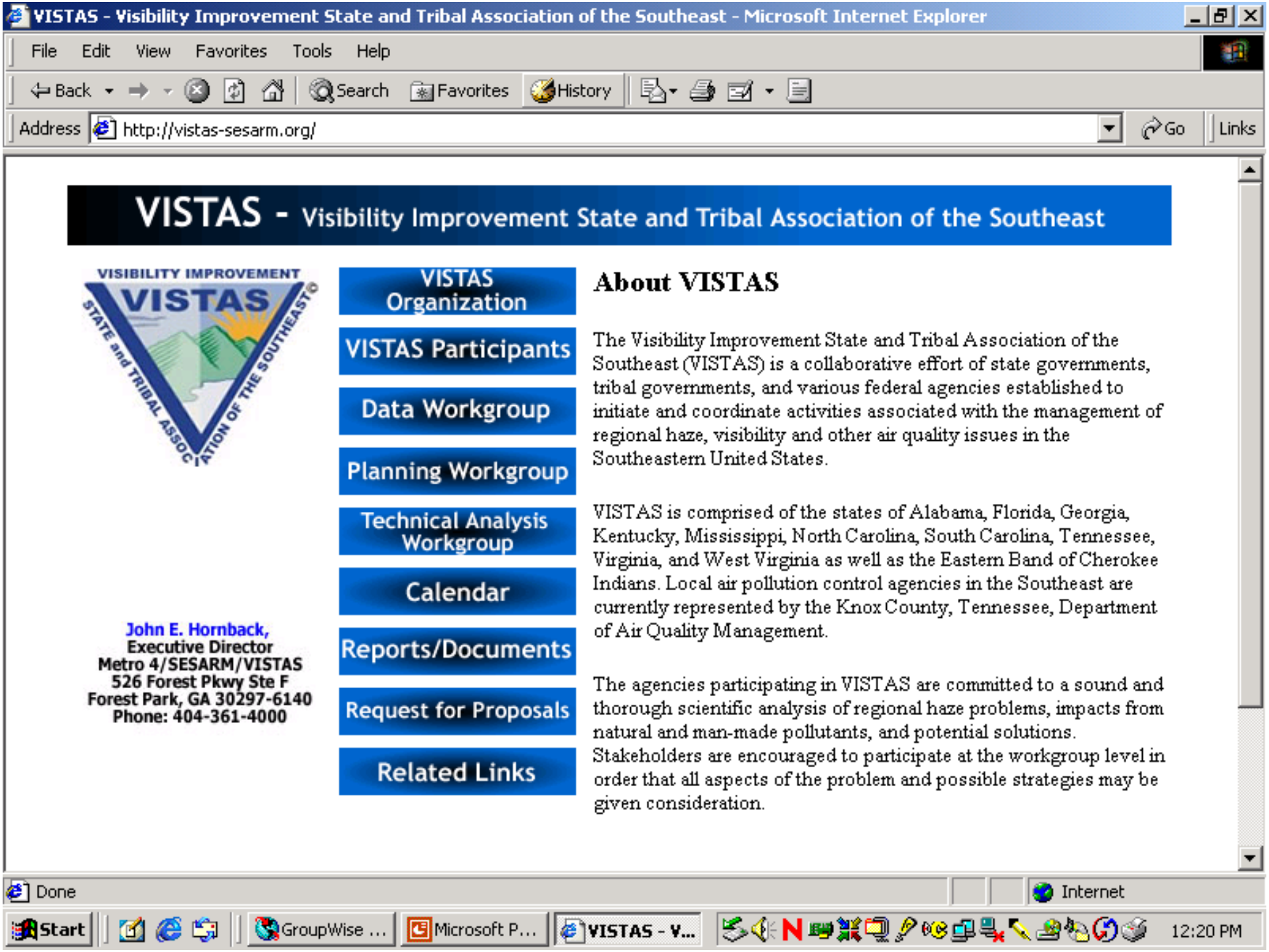
- Major projects:
  - Identification of data needs
  - Ambient air monitoring
  - Meteorological monitoring
  - Development of emissions inventories
  - Episode selection

VISTAS OBLIGATIONS (cont.)

- Major projects:
  - Modeling protocol development
  - Emissions and meteorological modeling
  - Control strategy development and analysis
  - Control strategy implementation
  - Tracking and analysis of effectiveness

PARTNERS

- We need collaboration
  - Small businesses
  - Large industries
  - Environmental groups
  - Trade associations
  - Private consultants and contractors
  - Local and state agencies
  - Indian tribes
  - Federal government
  - Regional planning organizations


VISTAS - Visibility Improvement State and Tribal Association of the Southeast - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites History
Address http://vistas-sesarm.org/
Go Links
VISTAS - Visibility Improvement State and Tribal Association of the Southeast
VISIBILITY IMPROVEMENT
VISTAS
STATE and TRIBAL ASSOCIATION OF THE SOUTHEAST
VISTAS Organization
VISTAS Participants
Data Workgroup
Planning Workgroup
Technical Analysis Workgroup
Calendar
Reports/Documents
Request for Proposals
Related Links
About VISTAS
The Visibility Improvement State and Tribal Association of the Southeast (VISTAS) is a collaborative effort of state governments, tribal governments, and various federal agencies established to initiate and coordinate activities associated with the management of regional haze, visibility and other air quality issues in the Southeastern United States.
VISTAS is comprised of the states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia as well as the Eastern Band of Cherokee Indians. Local air pollution control agencies in the Southeast are currently represented by the Knox County, Tennessee, Department of Air Quality Management.
The agencies participating in VISTAS are committed to a sound and thorough scientific analysis of regional haze problems, impacts from natural and man-made pollutants, and potential solutions. Stakeholders are encouraged to participate at the workgroup level in order that all aspects of the problem and possible strategies may be given consideration.
John E. Hornback,
Executive Director
Metro 4/SESARM/VISTAS
526 Forest Pkwy Ste F
Forest Park, GA 30297-6140
Phone: 404-361-4000
Done
Internet
Start
GroupWise ...
Microsoft P...
VISTAS - V...
12:20 PM

WHAT WE KNOW

- Our region is growing
- While new federal requirements are being implemented, air quality issues remain
- Continued reductions in emission rates and total emission tonnage are needed
- Our scientific knowledge and analytical skills are improving

WHAT WE STILL MUST LEARN

- Much more about the causes of regional haze as well as remedial options
- How to harmonize multi-pollutant strategies into workable plans
- How to achieve buy-in from all stakeholders as control costs escalate

Everglades National Park
Florida

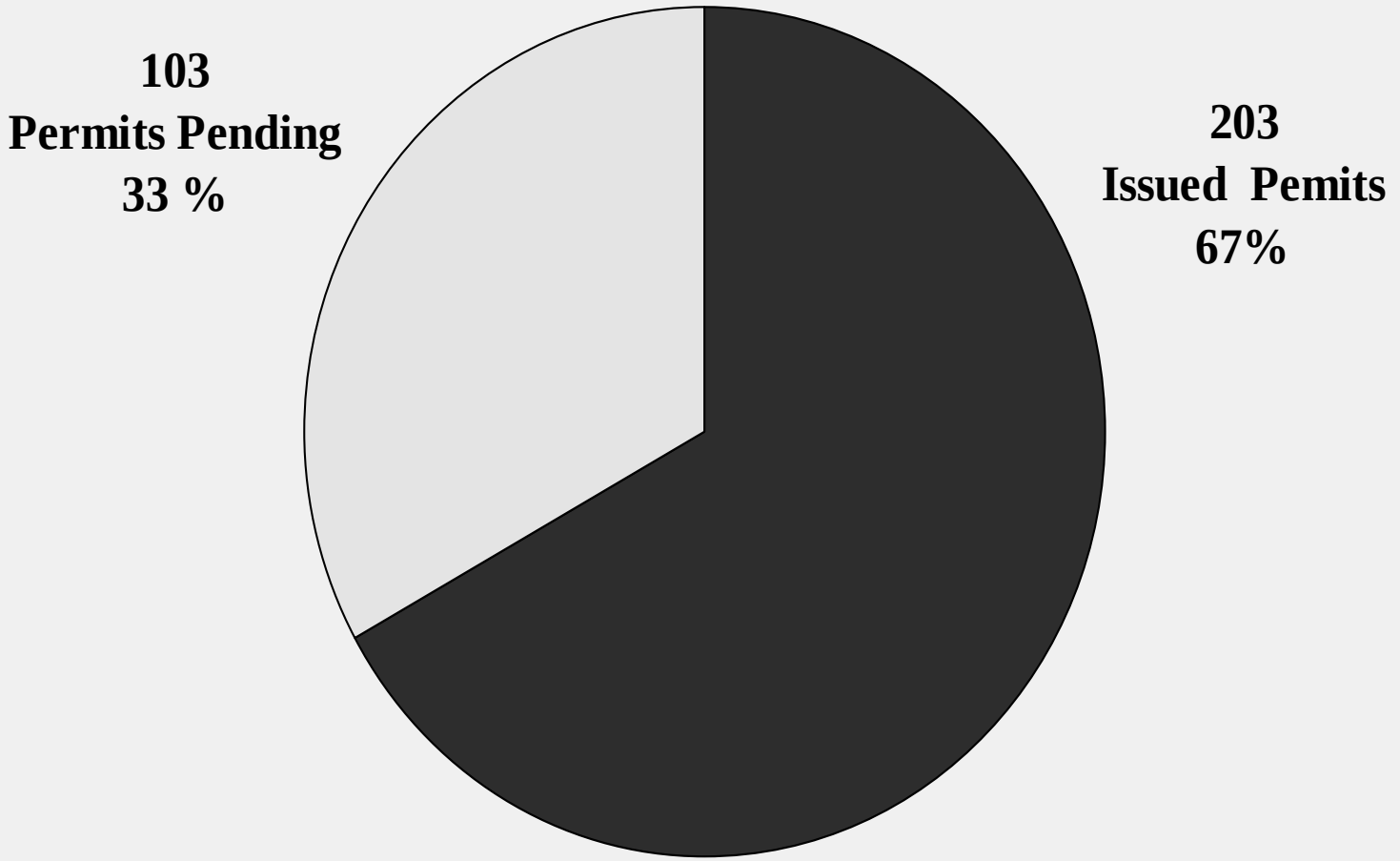
Okefenokee Wilderness Georgia

Virginia has 325 Title V facilities. This number includes 306 initial batch applications.

Initial batch permits are those applications submitted prior to September 30, 1998.

The Department has committed to issue all the initial batch Title V permits by December 1, 2004.

Title V Initial Batch Issuance Rate From September 30, 1998 to October 29, 2002



- **The Department has received 19 permits that are not initial batch permits. The Department has issued 6 of these permits and has 13 pending permits.**

- **The Department has processed 40 changes to issued Title V permits these include: administrative amendments, minor modifications and significant modifications.**